Habitat and prey preferences of the two predatory bugs Anthocoris nemorum (L) and A. nemoralis (Fabricius) (Anthocoridae: Hemiptera-Heteroptera)

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Published in:
Conference proceedings: Abstract 154

Publication date:
2008

Document version
Publisher's PDF, also known as Version of record

Program
and
list of participants

IOBC-WPRS
OILB-SROP

INRA

IFP 2008

PFI 2008

VII International Conference on Integrated fruit production




Avignon France,
27 – 30 October 2008

parasitoid, *Aphelinus mali*. Two syrphid species were the predominant arthropod predators recorded in colonies. On day 2, syrphid eggs were observed in 44% of colonies (5/tree) on trees in both orchards and in 100% of colonies during the study. Colonies were excised and examined on day 14, revealing that eggs of *Heringia calcarata* comprised 60.8% and 79.6% of eggs on trees in the experimental and commercial orchards respectively. Eggs of *Eupeodes americanus* comprised 39.2% and 13.9% of those in the experimental and commercial orchards, respectively, while eggs of *Syrphus rectus* represented 6.5% of those from the commercial orchard. The mean total number of hatched and unhatched eggs per colony recorded on day 14 ranged from 1.4 to 2.6 and from 2.0 to 5.4 in the experimental and commercial orchard, respectively. Recovery of adult *A. mali* from the excised colonies revealed significantly higher numbers of parasitoids per tree from colonies on caged trees (358.6 ± 24.2 SEM) than from colonies on trees in the experimental (2.6 ± 1.7 SEM) or commercial (36.6 ± 13.1 SEM) orchards.

Eriosoma lanigerum, Heringia calcarata, Eupeodes americanus, biological control

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Habitat and prey preferences of the two predatory bugs *Anthocoris nemorum* (L) and *A. nemoralis* (Fabricius) (Anthocoridae: Hemiptera-Heteroptera)

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The annual occurrence and distribution of the predatory bugs *Anthocoris nemorum* and *A. nemoralis* between apple, pear and herbal vegetation was assessed. In the laboratory anthocorid prey preference was assessed in two-choice experiments with key pests of apple and pear including pear psyllid, apple psyllid, green apple aphid, rosy apple aphid and red spider mites. Anthocorids were the dominant early season predatory bugs, co-occurring with spiders. *Anthocoris nemorum* dominated in apple, while *A. nemoralis* dominated in pear. *A. nemorum* was also common in herbal vegetation, especially in midsummer. Anthocorid numbers were correlated with numbers of collembola, psyllids and aphids in apple, and with numbers of psyllids in pear. *A. nemoralis* preferred pear psyllid to green apple aphid, while *A. nemorum* preferred green apple aphid. Both species preferred psyllids to spider mites. In the two years studied, *A. nemorum* had two generations proving that it can be bivoltine under Danish climate conditions. In the mid summer the higher density of annual vegetation, simultaneous with lower density in trees, suggests that herbal vegetation may maintain *A. nemorum* in orchards at times of low prey numbers in the trees. Habitat and prey preferences of the two anthocorid species identify *A. nemorum* as a biological control agent of special importance in apple, whereas *A. nemoralis* is of importance in pear.

Anthocoris nemorum, Anthocoris nemoralis, Voltinism, Orchard, Psyllids, Cacopsylla pyri, Cacopsylla mali, Aphis pomi, Dysaphis plantaginea, Panonychus ulmi, Preference, Behaviour

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